


REMARKS

The enclosed electronic and paper copies of the Sequence Listing include no new material. The above amendments merely direct the insertion of the Sequence Listing into the specification and the insertion of sequence identifiers for claims 28-30, 33-35, and 44-52 as required by 37 C.F.R. § 1.821(d). Applicants respectfully submit that the above-identified application is now in compliance with 37 C.F.R. §§ 1.821-1.825.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached Appendix A is captioned "**Appendix A: Version With Markings To Show Changes Made**".

Respectfully submitted,

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Enclosures:

Computer Diskette
Declaration Regarding Computer Diskette
Paper Copy of Sequence Listing
Copy of Notice to Comply

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Examiner : Chih-Min Kam, Ph.D.

Appendix A:
Version With Markings To Show Changes Made

In the specification:

The paragraph beginning at page 63, line 8, has been amended as follows:

These peptides are derived from domains found in PMPs or other molecules that are either known to or predicted to stimulate one or more of the inherent antimicrobial functions of leukocytes such as neutrophils, monocytes, macrophages, and/or lymphocytes. Example sequences in this category are:

PMP-2₁₋₂₂: Ser Asp Asp Pro Lys Glu Ser Glu Gly Asp Leu His Cys Val Cys Val Lys Thr Thr
Ser Leu Val (SEQ ID NO:96);

PMP-2₁₋₃₇: Ser Asp Asp Pro Lys Glu Ser Glu Gly Asp Leu His Cys Val Cys Val Lys Thr Thr
Ser Leu Val Arg Pro Arg His Ile Thr Asn Leu Glu Leu
Ile Lys Ala Gly Gly (SEQ ID NO:97); and

SEQUENCE No. 17 (e.g. RP-15).

The paragraph beginning at page 63, line 22, has been amended as follows:

Variants of the above sequences or those present in Figure 12, which have the described modifications in their Glu - Leu - Arg (ELR) and/or sixth basic residue components may also be suitable. Examples include:

21-K-PMP-2₁₋₂₂: Ser Asp Asp Pro Lys Glu Ser Glu Gly Asp Leu His Cys Val Cys Val
Lys Thr Thr Ser Lys Val (SEQ ID NO:98);

ELR-PMP-2₁₋₂₂: Ser Asp Asp Pro Lys Glu Ser Glu Gly Glu Leu Arg Cys Val Cys Val

Lys Thr Thr Ser Leu Val (SEQ ID NO:99);

21-K,ELR-PMP-2₁₋₂₂: Ser Asp Asp Pro Lys Glu Ser Glu Gly Glu Leu Arg Cys Val Cys Val Lys
Thr Thr Ser Lys Val (SEQ ID NO:100);

21-K,CC-PMP-2₁₋₂₂: Ser Asp Asp Pro Lys Glu Ser Glu Gly Asp Leu His Cys Cys Val Lys Thr
Thr Ser Lys Val (SEQ ID NO:101);

ELR,CC-PMP-2₁₋₂₂: Ser Asp Asp Pro Lys Glu Ser Glu Gly Glu Leu Arg Cys Cys Val Lys Thr
Thr Ser Leu Val (SEQ ID NO:102); and

21-K,ELR,CC-PMP-2₁₋₂₂: Ser Asp Asp Pro Lys Glu Ser Glu Gly Glu Leu Arg Cys Cys Val
Lys Thr Thr Ser Lys Val (SEQ ID NO:103).

The paragraph beginning at page 64, line 23, has been amended as follows:

These include logical and/or strategic mosaic constructs of the above peptides in the categories above. Conceptually, these mosaic peptides will consist of one or more domains exerting direct microbicidal and/or microbiostatic activity linked or otherwise combined with one or more domains exerting leukocyte potentiating activities. Examples (only a few of the logical constructs achievable from combining the above peptides) are listed below:

RP-1/PMP-2₁₋₂₂: Ala Leu Tyr Lys Lys Phe Lys Lys Lys Leu Leu Lys Ser Leu Lys Arg Leu
Gly Ser Asp Asp Pro Lys Glu Ser Glu Gly Asp Leu His Cys Val Cys Val
Lys Thr Thr Ser Leu Val (SEQ ID NO:104);

RP-11/PMP-2₁₋₂₂: Ala Leu Tyr Lys Arg Leu Phe Lys Lys Leu Lys Lys Phe Ser Asp Asp Pro
Lys Glu Ser Glu Gly Asp Leu His Cys Val Cys Val Lys Thr Thr Ser Leu
Val (SEQ ID NO:105); and

RP-1/21-K,ELR-PMP-21-22: Ala Leu Try Lys Lys Phe Lys Lys Lys Leu Leu Lys Ser Leu Lys
Arg Leu Gly Ser Asp Asp Pro Lys Glu Ser Glu Gly Glu Leu Arg
Cys Val Cys Val Lys Thr Thr Ser Lys Val (SEQ ID NO:106).

In the claims:

Claims 28-30, 33-35, and 44-52 have been amended as follows:

28. The antimicrobial peptide composition of Claim 26, wherein said peptide contains an amino acid core sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃-aa₁₄-aa₁₅-aa₁₆-aa₁₇, wherein aa₁ is the amino-terminus of the peptide core sequence and is alanine; aa₂ is threonine; aa₃ and aa₄ are lysine; aa₅ is asparagine; aa₆ is glycine; aa₇ is arginine; aa₈ is lysine; aa₉, aa₁₁, aa₁₃ and aa₁₇ are leucine; aa₁₀ is cystine; aa₁₂ is aspartic acid; aa₁₄ is glutamine; and aa₁₅ and aa₁₆ are alanine (SEQ ID NO:14).

29. The antimicrobial peptide composition of Claim 26, wherein said peptide contains an amino acid core sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈, wherein aa₁ is the amino-terminus of the peptide core sequence and is arginine; aa₂ is phenylalanine; aa₃ is glutamic acid; aa₄ is lysine; aa₅ is serine; aa₆ is lysine; aa₇ is isoleucine; and aa₈ is lysine (SEQ ID NO:15).

30. The antimicrobial peptide composition of Claim 26, wherein said peptide contains an amino acid core sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃-aa₁₄-aa₁₅-aa₁₆-aa₁₇-aa₁₈-aa₁₉-aa₂₀, wherein aa₁ is the amino-terminus of the peptide and is serine; aa₂ is alanine; aa₃ is isoleucine; aa₄ is histidine; aa₅ is proline; aa₆ and aa₇ are serine; aa₈ is isoleucine; aa₉ is leucine; aa₁₀ is lysine; aa₁₁ is leucine; aa₁₂ is glutamic acid; aa₁₃ is valine; aa₁₄ is isoleucine; aa₁₅ is cystine; aa₁₆ is isoleucine; aa₁₇ is glycine; aa₁₈ is valine; aa₁₉ is leucine; and aa₂₀ is glutamine (SEQ ID NO:16).

33. The antimicrobial peptide composition of Claim 32, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁, wherein aa₁ is the

amino-terminus of the peptide and is lysine; aa₂ is phenylalanine; aa₃ is lysine; aa₄ is histidine; aa₅ is tyrosine; aa₆ and aa₇ are phenylalanine; aa₈ is tryptophan; aa₉ is lysine; aa₁₀ is tyrosine; and aa₁₁ is lysine (SEQ ID NO:18).

34. The antimicrobial peptide composition of Claim 32, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁, wherein aa₁ is the amino-terminus of the peptide and is lysine; aa₂ is glycine; aa₃ is tyrosine; aa₄ is phenylalanine; aa₅ is tyrosine; aa₆ is phenylalanine; aa₇ is leucine; aa₈ is phenylalanine; aa₉ is lysine; aa₁₀ is phenylalanine; and aa₁₁ is lysine (SEQ ID NO:19).

35. The antimicrobial peptide composition of Claim 32, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁, wherein aa₁ is the amino-terminus of the peptide and is lysine; aa₂ is tryptophan; aa₃ is lysine; aa₄, aa₅, aa₆, aa₇ and aa₈ are tryptophan; aa₉ is lysine; aa₁₀ is tryptophan; and aa₁₁ is lysine (SEQ ID NO:20).

44. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃, wherein aa₁ is the amino-terminus of the peptide and is proline, aa₂ is arginine, aa₃ is isoleucine, aa₄ and aa₅ are lysine, aa₆ is isoleucine, aa₇ is valine, aa₈ is glutamine, aa₉ and aa₁₀ are lysine, aa₁₁ is leucine, aa₁₂ is alanine, and aa₁₃ is glycine (SEQ ID NO:21).

45. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃-aa₁₄-aa₁₅-aa₁₆-aa₁₇-aa₁₈-aa₁₉, wherein aa₁ is the amino-terminus of the peptide and is lysine, aa₂ is tryptophan, aa₃ is valine, aa₄ is arginine, aa₅ is glutamic acid, aa₆ is tryosine, aa₇ is isoleucine, aa₈ is asparagine, aa₉ is serine, aa₁₀ is leucine, aa₁₁ is glutamic acid, aa₁₂ is methionine, aa₁₃ is serine, aa₁₄ and aa₁₅ are lysine, aa₁₆ is glycine, aa₁₇ is leucine, aa₁₈ is alanine, and aa₁₉ is glycine (SEQ ID NO:22).

46. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃-aa₁₄-aa₁₅-aa₁₆-aa₁₇-aa₁₈-aa₁₉-aa₂₀, wherein aa₁ is the amino-terminus of the peptide and is glutamic acid, aa₂ is tryptophan, aa₃ is valine, aa₄ is glutamine, aa₅ is lysine, aa₆ is tryosine, aa₇ is valine, aa₈ is serine, aa₉ is asparagine, aa₁₀ is leucine, aa₁₁ is glutamic acid, aa₁₂ is leucine, aa₁₃ is serine, aa₁₄ is alanine, aa₁₅ is tryptophan, aa₁₆ and aa₁₇ are lysine, aa₁₈ is isoleucine, aa₁₉ is leucine, and aa₂₀ is lysine (SEQ ID NO:107).

47. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂, wherein aa₁ is the amino-terminus of the peptide and is serine, aa₂ is tryptophan, aa₃ is valine, aa₄ is glutamine, aa₅ is glutamic acid, aa₆ is tryosine, aa₇ is valine, aa₈ is tryosine, aa₉ is asparagine, aa₁₀ is leucine, aa₁₁ is glutamic acid, and aa₁₂ is leucine (SEQ ID NO:108).

48. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃-aa₁₄-aa₁₅-aa₁₆, wherein aa₁ is the amino-terminus of the peptide and is alanine, aa₂ is asparagine, aa₃ is serine, aa₄ is glycine, aa₅ is glutamic acid, aa₆ is glycine, aa₇ is asparagine, aa₈ is phenylalanine, aa₉ is leucine, aa₁₀ is alanine, aa₁₁ is glutamic acid, aa₁₂, aa₁₃ and aa₁₄ are glycine, aa₁₅ is valine, and aa₁₆ is arginine (SEQ ID NO:109).

49. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃-aa₁₄-aa₁₅-aa₁₆-aa₁₇-aa₁₈-aa₁₉-aa₂₀, wherein aa₁ is the amino-terminus of the peptide and is alanine, aa₂ is asparagine, aa₃ is serine, aa₄ is glycine, aa₅ is glutamic acid, aa₆ is glycine, aa₇ is asparagine, aa₈ is phenylalanine, aa₉ is leucine, aa₁₀ is alanine, aa₁₁ is glutamic acid, aa₁₂, aa₁₃ and aa₁₄ are glycine, aa₁₅ is valine, aa₁₆ is arginine, aa₁₇ is lysine, aa₁₈ is leucine, aa₁₉ is isoleucine, and aa₂₀ is lysine (SEQ ID NO:110).

50. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃, wherein aa₁ is the amino-terminus of the peptide and is glutamic acid, aa₂ is glycine, aa₃ is valine, aa₄ is asparagine, aa₅ is aspartic acid, aa₆ is asparagine, aa₇ and aa₈ are glutamic acid, aa₉ is glycine, aa₁₀ and aa₁₁ are phenylalanine, aa₁₂ is serine, and aa₁₃ is alanine (SEQ ID NO:27).

51. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃-aa₁₄-aa₁₅-aa₁₆-aa₁₇-aa₁₈, wherein aa₁ is the amino-terminus of the peptide and is lysine, aa₂ is phenylalanine, aa₃ is asparagine, aa₄ is lysine, aa₅ is serine, aa₆ is lysine, aa₇ is leucine, aa₈ and aa₉ are lysine, aa₁₀ is threonine, aa₁₁ is glutamic acid, aa₁₂ is threonine, aa₁₃ is glutamine, aa₁₄ is glutamic acid, aa₁₅ is lysine, aa₁₆ is asparagine, aa₁₇ is proline, and aa₁₈ is leucine (SEQ ID NO:111).

52. The antimicrobial peptide composition of Claim 36, wherein said peptide contains the amino acid sequence aa₁-aa₂-aa₃-aa₄-aa₅-aa₆-aa₇-aa₈-aa₉-aa₁₀-aa₁₁-aa₁₂-aa₁₃-aa₁₄-aa₁₅, wherein aa₁ is the amino-terminus of the peptide and is alanine, aa₂ is asparagine, aa₃ is leucine, aa₄ is isoleucine, aa₅ is alanine, aa₆ is threonine, aa₇ and aa₈ are lysine, aa₉ is asparagine, aa₁₀ is glycine, aa₁₁ is arginine, aa₁₂ is lysine, aa₁₃ is leucine, aa₁₄ is cystine, and aa₁₅ is leucine (SEQ ID NO:29).